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ABSTRACT

A study compared test scores of students instructed to use graphic organizers while reading social studies content material with those of students not using the strategy. Subjects, students in two fourth-grade classes in a primarily middle class, suburban community, studied two chapters from a social studies textbook and completed chapter tests (provided by the textbook authors) as pre- and posttests. One class served as the control group and followed the teacher's manual with the reading of the text and discussion of important points. The other class read the same chapters, but completed teacher-constructed graphic organizers after receiving instruction on how to use and read them. Results indicated that despite scoring well below the control group on the pretest, the experimental group made a significant improvement as a result of instruction and scored higher than the control group on the posttest. (Three tables of data are included; eight teacher-constructed graphic organizers, and two appendixes of data are attached.) (Contains 26 references.) (RS)

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Using Graphic Organizers in Content Area Subjects

By

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In Partial Fulfillment of the Requirements
for the Master of Arts Degree in Education,
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ABSTRACT

This study was undertaken to determine if there would be any significant difference in test scores between students instructed to use graphic organizers while reading social studies content material and those students not instructed in their use. It was hypothesized that there would be no significant improvement in test scores between the samples.

The test results indicate that the students using the graphic organizers scored considerably higher test scores than those students not using graphic organizers and that difference was significant.

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Improving students' comprehension is a major concern for most teachers today. Research has contributed to a better understanding of just how readers comprehend as well as how teachers can help improve comprehension. Comprehension can be viewed as an active process in which readers integrate what they have read with what they already know about the topic.

Research has also shown that students have difficulty understanding and learning from informational text. The National Assessment of Educational Progress (Applebee, Langer, Mullis, 1989) summarized the findings by concluding that 61% of 17 year olds (American students) fail to demonstrate the ability to find, understand, and summarize complicated information. This suggests that most students leaving high school do not have the comprehension skills needed in worlds of higher education, business, or government.

Calfee and Curley (1984) state that reading instruction in elementary grades focuses on narrative. Fourth and fifth graders experience difficulty in making the transition from narrative to expository text (Boothby, Alvermann, 1984).

Much effort has gone into finding better ways to help students understand and retain information from texts. Researchers have determined that comprehension performance seems to improve when students are instructed how to read and comprehend expository writing concludes Boothby and

Alvermann (1984). Mayer states that in order for meaningful learning to take place, the student needs to be able to select, organize, and integrate the text.

Graphic organized instruction is one strategy which can be taught to intermediate grade students to assist with content area reading (Boothby, Alvermann 1984). Graphic organizers are instructional strategies attempting to help students better understand their reading using spatial arrangements and wording to organize concepts. Research indicates that graphic or instructional organizers can help middle grade students learn from reading informational text.

Boothby and Alvermann (1984) completed a study with fourth graders who were taught to use graphic organizers to help them remember content in a social studies textbook. Those students who completed instructional graphic organizers had better recall after a 48 hour delay than did the control group.

Graphic organizers can help students select main ideas, organize the information, and integrate it with what is already known. This strategy is ideal for assisting children with the comprehension of expository selections.

Simmons, Griffin, and Kamenui (1988) concluded in their study that pre-reading graphic organizers were more effective in facilitating delayed recall than graphic organizers presented after the reading (post-graphic organizers). The same research suggested further study of **student**-constructed graphic organizers as possibly being more effective than teacher-constructed organizers

and traditional instruction. Involvement of students in making the graphic organizer is an important factor in its success adds Armbruster (1991).

When graphic organizers are first introduced, says Piccolo (1987), they should teach text structure. The teacher should select passages which will help children begin to differentiate between content and structure. McGee and Richgels' organizer (Noyce, p.223) is an excellent example of illustrating a listing pattern. Pattern guides require students to make written responses while reading. Pattern guides restructure text. (Alvermann, 1982) McGee and Richgels (1985) maintain that students comprehend and recall expository text better if they can restructure passages they've read.

Flood, Lapp, Farnan (1986) recommend a 4 step writing procedure for helping intermediate grade children understand the structure of expository text. It is an organizer with a series of fill in the blanks.

Semantic mapping is another strategy to graphically organize expository text. It can illustrate concepts and relationships between concepts state Pearson and Johnson (1978). Semantic maps are an effective way of teaching word meanings of key vocabulary terms continues Pearson and Johnson (1978). It makes relationships more concrete.

Armbruster and Anderson researched using a particular instructional graphic--the frame. This was a flexible technique that could illustrate sequential development.

Advantages for using graphic organizers are evident in most research. They assist the children in focusing on what they're learning. (Barbour, 1989) They can provide a study guide in preparing for a test. They familiarize students with expository text structures resulting in better reading comprehension (Englert, Hiebert, 1984). Finally, McGee and Richgels maintain that students who have expository texts with graphic organizers may be better prepared to rewrite or summarize by using the pattern and adding cue words. Piccolo (1987) adds that graphic organizers help students write and understand better what they are writing.

Despite such research findings, the use of graphic organizers in instruction is apparently limited at best and non existent in most classrooms. Theory has not produced much practice by practicioners. To add weight to the argument for usage, more classroom oriented research needs to be done to establish the values of graphic organizers or to demonstrate their limitations.

Hypothesis

For the purpose of this study, it was hypothesized that students who use graphic organizers when reading social studies material would not show any improvement in test performance from those students who do not use graphic organizers.

Procedures

The students participating in this study were two

fourth grade classes in a primarily middle class, suburban community. The students were heterogeneously grouped. Both groups had similar characteristics of age, socio-economic status, and educational ability. Each class was in a different elementary school in the same suburban community. A different teacher taught each class.

Two chapters from the social studies textbook, New Jersey Yesterday and Today, were selected to be taught in this study. This is the first school year that this textbook has been used in this community in the fourth grades. Each fourth grade class had three 45 minute social studies classes a week.

Initially the Pretest for Chapter 1 was administered to both fourth grade classes. This test, as well as all other tests, consisted of 20 multiple choice questions and 5 questions requiring answers in sentences. This test was published and provided by the authors of the social studies textbook. The same test was used as a pretest and post test.

The control sample primarily followed the teacher's manual with the reading of the text and the discussion of important points as suggested by the manual. Questions at the end of each lesson were answered. Selected workbook pages and worksheets from blackline masters were completed by the students at the teacher's discretion to reinforce the objectives of each lesson.

At the conclusion of the chapter, the chapter test was administered as a Post test. The scores were recorded.

Chapter 3 was the second chapter selected to be

completed in the study. The same procedures were followed by the teacher of the control group. First, the pretest was administered. Each of the 3 lessons in the chapter were read and discussed as recommended by the teacher's manual. Check up questions, workbook pages, and blackline masters were completed to reinforce the chapter's concepts. A Post test was given upon completion of the chapter. The scores of the Pretest and Post test were recorded and compared.

After the Pretest was administered, the experimental group was introduced to graphic organizers. They were instructed how to use and read them. Benefits for their use were discussed. The experimental group completed teacher-constructed graphic organizers as the chapters were read. In Chapter 1 five graphic organizers were used for the five lessons. (see Appendices A-E) The first graphic organizer was completed together as a class. Each student had a copy of the graphic organizer on which to write. The graphic organizer was completed as the reading continued. The teacher had the graphic organizer displayed on an overhead projector. Upon completion of this first graphic organizer, it was reviewed and discussed. Through this review questions were asked that reflected on the main objectives of the lesson. The students were able to use their graphic organizers to locate the answers.

At the next class session a brief review of this

completed organizer started the lesson. A copy of the next graphic organizer was provided for each student. A quick overview of the graphic organizer was discussed. Then the students read the text and independently completed the graphic organizer. It was checked through discussion at the next class session. Once again the teacher displayed the completed graphic organizer on the overhead projector for the students to see. The instruction of this chapter continued in this manner. At the conclusion of the chapter, a review of the main objectives took place. The use of the graphic organizer was demonstrated to be an important study guide for the studying of the chapter. The Post test was given for Chapter 1.

Next the students continued into Chapter 3 beginning with a Pretest. Three graphic organizers were used for Chapter 3; one for each lesson. (see Appendices F-H) The same procedure was followed in completing the chapter. The last graphic organizer for lesson 3 was done orally with full class participation because it involved map reading. At the conclusion the chapter was reviewed by playing a game utilizing questions formulated by the students from their textbook and graphic organizers. The Post test was administered the following day.

The experimental sample did not use workbook pages or blackline masters. Instead, discussions were based on their answers on the graphic organizers. The teacher used the teacher's manual as background material.

RESULTS

Table 1 illustrates the means, standard deviations, and

Table 1

Pretest Means, Standard Deviations, and t of the Control and Experimental Samples

Sample	Mean	SD	t
Control	17.85	5.29	3.90
Experimental	12.65	3.74	

sig $<$ .01

t of the results of the pretests (Appendix I) taken by the students in both samples. The mean scores indicate that the control sample scored higher than the experimental sample at the outset of the study. There is a 5.2 point difference between the mean scores. The control sample performed better on the pretests that were administered than did the experimental sample. This difference suggests that the samples were not heterogeneous and may have been established by other than random procedures. The difference between the means of the samples was significantly below the one percent (.01) level.

Table 2 illustrates the means, standard deviations, and

Table 2

Mean, Standard Deviation, and t of the Control and Experimental Samples Posttest Results

Sample	Mean	SD	t
Control	27.85	8.42	-3.02
Experimental	35.62	8.82	

sig < .01

t of the samples' Posttests. The mean scores in Table 2 when compared to Table 1 shows a larger improvement of the experimental sample over that of the control sample (22.97 points as compared to 10 points). Table 2 shows, moreover, that there is a 7.8 mean difference in favor of the experimental sample. This mean difference is significant below the one (.01) percent level.

Table 3 reflects the mean gains between each sample's

Table 3

Means, Standard Deviations, and t between the Samples in terms of Gain Scores

Sample	Mean	SD	t
Control	10.00	5.74	-4.45
Experimental	21.97	9.73	

sig < .01

Pretest and Posttests scores. Here the mean gain of the experimental sample is 12.97 points. The t of -4.45 is highly significant since it is considerably below the .01 (one percent) level.

Conclusions

The results of this study reject the hypothesis that using graphic organizers in content area subjects would not make any significant difference on measures of comprehension of social studies material. An examination of the data indicate just the opposite. An examination of the data demonstrates the control sample had an impressive mean score difference over the experimental sample at the outset of this study. A number of reasons could explain this difference. The experimental background of the population in the control sample could possibly have been more related to the content of this text, the samples were not heterogeneously or random assigned, etc.

The results further indicate that the experimental sample made a significant improvement as a result of instruction. This significant improvement is directly attributed to the samples' use of graphic organizers as they read the chapters.

This study has demonstrated that there is value in students using graphic organizers while reading social

studies textbook material. It appears from the results of this study that fourth grade is an ideal grade level to begin instruction in the purposes for using graphic organizers and how to interpret them. As the students become more adept at using graphic organizers, they will develop an awareness of the different kinds of graphic organizers and eventually become proficient at constructing their own.

The students in the Experimental Sample read for definite purposes; thus, enabling them to better organize and comprehend their reading. The completed graphic organizer was used again as a study tool to review and study for a test. This study illustrates that the graphic organizer enhanced the understanding of the content material significantly. The students appeared to enjoy completing the graphic organizers because they had something concrete to show meaning as to what they had read.

Prior research has indicated that graphic organizers are important but not significant enough to warrant it being included in the curriculum. The significant improvement made by the students using graphic organizers in this study is important enough to support the inclusion of graphic organizer instruction in the curriculum. This study also should be an encouragement for further classroom research into the use of graphic organizers with social studies content material.

Use of Graphic Organizers in Content Area Subjects

Related Research

Most researchers do agree that the primary purpose of content area texts is to provide information or to inform the student about the content area. Readence, Bean, and Baldwin (1981) add that graphic organizers make the relationship between text elements more concrete and easier for students to conceptualize.

According to Piccolo (1987) there are common paragraph structures used in content area textbooks. These different types are listing or enumerative, time order, cause and effect, comparison and contrast, and problem and solution. Piccolo suggests developing sequential mini-lessons to assist students in identifying these common structures. Piccolo continues by adding that listing, or enumeration, is the most common organizational scheme found in content area textbooks.

There are a variety of graphic organizers being used. Clarke (1991) states that evidence has begun to accumulate showing graphic frames support student comprehension and encourage higher order thinking particularly among low achieving students. Clarke acknowledges that a graphic organizer can assist students develop lecture notes, focus whole class discussion, and challenge cooperative groups. Teaching, using graphic organizers, involves developing a visual form letting students represent what they know, add new information, and practice higher level reasoning.

Clarke continues by stating graphic organizers serve two purposes. First, bottom up graphics help students scan,

sort and organize information so they can draw inferences and conclusions. Second, a top-down graphic organizer helps the students to apply rules, test hypotheses, make decisions and solve new problems. These top-down organizers are the best known. They involve the student in outlining of a cause and effect process, concept maps, pro/con charts, causal chains, flow charts that help the students to think out their answers.

Semantic mapping is another instructional strategy widely used today. Hanf (1971) recommended using semantic mapping as a study skill strategy to guide the processing of context area material. Using it as an advance organizer, Hanf said it enabled better comprehension instead of taking notes and outlining.

Hanf suggested the use of three basic steps to design a map. First, there should be the identification of a main idea. A shape is drawn around it. Students list all they already know about the topic. Next, there are secondary categories. Labels for these categories should be written on the map. Finally, students complete the map by adding details from memory. Students are held accountable for knowing the facts or supporting details in each category. The completed map will provide a graphic summary of information in the chapter.

Another form of graphic organizers is the pattern guide. Pattern guides are teacher-constructed requiring students to make certain response while reading. The students fill in the pattern guide as they read.

In a study conducted by Slater (1985), ninth graders were given pattern guides in the form of outline grids to fill in as they read. The results showed an increase in their comprehension and recall of the expository passages. Slater recommends teachers devote more time to the use of organizers.

Slater's approach was to introduce the students to structural organizers by showing examples of expository text paragraph patterns and to explain their importance as reading aids. Students were then given an organizer to complete as they read the selection. After completing, the passage, students were asked to recall the organization of the passage and write a summary of it.

Reutzel (1986) recommends the cloze story map as another type of graphic organizer which could be useful in comprehension instruction. To make a cloze story map the teacher puts the main idea in the center of the map then connects key words for major concepts or events symmetrically around the main idea. Subevents and subconcepts are arranged around the major concepts or events to which they relate. Every fifth item deleted in the map.

Reproductions of the map are given to the students to fill in as they read the passage. After the reading, the correct information which was inserted in the map would be discussed. The teacher might want to see if the students could reproduce the map from memory.

Many of the graphic organizers presented assist the

instructor in initiating discussion and verifying whether the concept had been developed.

Even though research into graphic organizer use grows, the curriculum in elementary schools do not include it. Continued studies are being conducted to further check its effectiveness. Simmons, Griffin, and Kameenui (1988) conducted a study involving 6th grade science classes to determine if there would be any significant effects on comprehension of the science material if a teacher-constructed graphic organizer was presented either before or after the text reading. Three experimental situations were set up. All the classes were homogeneously grouped. Students were selected from the results of a Pretest. The Pretest eliminated from the study students with extensive prior knowledge of the subject. One group was the Pregraphic organizer class. The second was the Post-organizer class, and the third was the Traditional instruction class.

The Prereading graphic organizer group performed better on a delayed posttest (given 11 days after the project was completed) than did the other two groups. In the Prereading graphic organizer class the instructor had presented the graphic organizer prior to the reading of the selected material. The instructor then had guided the students through the graphic organizer model. The graphic organizer was reviewed after reading the material. A second review consisted of presenting a blank version of the graphic organizer for students to recall the information.

Another review preceded the next day's lesson.

Simmons, Griffin, and Kameenui concluded that Prereading graphic organizers were more effective than Post graphic organizers. They also recommended further study into the effectiveness of teacher-constructed graphic organizers compared to student-constructed graphic organizers. No other significant differences were indicated from this study.

Darch, Carnine, and Kameenui (1986) conducted a study comparing the use of graphic organizers taught in a group situation, the use of graphic organizers taught in an individual situation, the text taught in an individualized variation of the SQ3R approach, and content area text taught to the whole classroom using a variation of Stauffer's Directed Reading-Thinking Activity. The results of their study pointed out the benefits of social interaction in studying content area material. The active involvement of students in the process contributes to better understanding of the material. Next the researchers noticed an increase in posttest performance of those students using graphic organizers. However, it was later discovered that these same students could not apply the strategy they had learned. They seemed to rely on the graphic organizer.

Graphic organizers can be used as a Prereading or Postreading strategy. Alvermann and Boothby (1982) support the use of graphic organizers **during** the reading process as opposed to before or after. They call this a **modified**

graphic organizer. This graphic organizer actively involves students during the reading by providing motivation and structure necessary. They continue by explaining that it motivates because it contains few words and those that are included serve as cues to information the student will be expected to search for and write. Alvermann and Boothby conclude from their study that retention is improved because the structure acts as a cuing device. The graphic organizer is also important because it lets students know what the teacher considers important in the textbook.

Alvermann and Boothby (1982) have listed 8 steps involved in using a modified graphic organizer. First, select a portion of the textbook which contains or discusses the concept being taught. They suggest to start small; use 4-5 pages, not a chapter. Second, list on index cards all words that are representative of the concept. Third, arrange the words to show a relationship between them and the concept. Fourth, transfer the arrangement to paper by substituting empty slots for certain words. The concept and most important topics should remain intact. Fifth, copy the graphic organizer on to an overhead transparency or make individual copies for the students' use, or draw it on the chalkboard. Sixth, discuss with the students that the purpose of the organizer is to improve their comprehension and ability to remember what they've read. Point out any concepts and pronounce any unfamiliar words. Seventh, assign pages in the textbook to be read while reminding students

that they are reading to locate missing information and to fill in the missing slots on the organizer. Finally, discuss the completed organizer with the students. Demonstrate how it highlights and organizes information from the textbook.

Alvermann and Boothby (1982) continue to encourage the use of graphic organizers, particularly their modified graphic organizer, with disabled learners. They state disabled learners are many times not motivated to employ strategies which will aid their comprehension and retention of material. They might ignore previously learned strategies, like SQ3R or outlining, because of the prolonged self direction and little structuring from the teacher. Whereas, the modified graphic organizer provides the motivation and structure necessary to turn inactive readers to active ones state Alvermann and Boothby. They continue by adding that the modified graphic organizer motivates because it contains few words which serve as cues as to the information the student is expected to locate. The graphic organizer also lets all students know what the teacher considers important. The students are encouraged to save their completed graphic organizer to study for tests.

Alvermann and Boothby (1982) further recommend that after acquiring the skill of using graphic organizers as a study aid has been developed, involve the students in the construction of their own. Gradually increase the amount of student input. When there is more involvement, there is a

feeling of ownership. With more student involvement, the teacher gains a better understanding of what students do or do not know about a concept. It is good for instruction planning.

Boothby and Alvermann (1984) conducted a "classroom training study" to determine the effects of graphic organizers on fourth graders' comprehension. Two classes participated in the study. One class used graphic organizers; the other did not. The results of the study indicated "students as young as fourth graders do appear to benefit from graphic organizer instruction as evidenced by the fact that the students in the experimental group performed on average almost one standard deviation above those in the control group for both immediate and 48-hour delay recall" concluded Boothby and Alvermann (1984). These researchers do indicate there is a need for further graphic organizer investigation in the elementary grades. Specifically, they say, more investigations will need to consider how well students generalize what they've learned from graphic organizer instruction.

Alvermann and Boothby (1984) conducted another study designed to "investigate the transfer effects of graphic organizer use on fourth grade students' ability to use top-level structure as an aid in the comprehension and recall of the text." They supported the use of the graphic organizer to highlight a text's top-level structure.

Participating in the study were twenty fourth graders

in a small midwestern city. The elementary textbook was used with 3 passages selected to be instructed. The students were randomly selected into one of three conditions. The first received instruction in the use of graphic organizers for 14 class periods; the second received reading instruction in using the graphic organizer for seven class periods; and the third, the control group, was taught by the reading and recitation method. The instruction time was 25 minutes for each class each day.

Graphic organizers resembling the clozure technique of filling in the blanks with deleted information were used. Criterion measure tests used were recall and recognition, written free call, and multiple choice. The graphic organizers were constructed by one of the investigators and the social studies teacher.

The graphic organizer was introduced to the students as the teacher demonstrated how "just a few words could connect other words and empty slots could be used to represent the author's organizational plan for a segment of text." In addition, it was demonstrated how that plan could be used to comprehend and remember the text which is the purpose of graphic organizer use. The two classes using graphic organizers were directed in each class to discuss the headings, read, and then summarize by completing their copy of the graphic organizer. The control group read the text either orally or silently, answered the teacher's questions either orally or in writing with no discussions.

Results of the study showed the 14 day experimental group recalled significantly more idea units than the control. No significant difference was noted between the 7 day experimental group and the control.

Not only does the graphic organizer help students organize and retain textual information, but it helps instructors clarify instructional goals. It helps instructors determine ahead of time the areas in text that are most likely to cause children problems stated Alvermann and Boothby (1984).

Brown (1988) encouraged graphic organizer use because of the improvement in comprehension. This improvement in comprehension was a result of students being required to use prior knowledge. Brown believed that students needed to think about and depict relationships among concepts and organization of the text. Graphic organizers also enhance comprehension, states Brown, as students can see a relationship among concepts. The students need to predict and review. Graphic organizers allow students to see whole and all the relationsips among concepts. This encourages immediate comprehension and easier retention. Students can, therefore, associate ideas and locate information independently.

Brown continues by indicating that there are extrinsic purposes to graphic organizer use. She indicates that graphic organizers provide visual pictures of the text which serve as a more divergent way of covering content area.

Graphic organizers allow students to think about material in an additional way. Brown adds that graphic organizers serve as excellent motivators for discussion as well as they encourage active thinking and discovery training.

Weisberg and Balajthy (1987) completed a study on the effects of training disabled readers in the use of graphic organizers on summarization strategies. These researchers involved 21 disabled readers whose mean age was 13 years 7 months from a reading clinic. Five hours of training was provided into the use of graphic organizers to map expository passages. The goal was to have each student recognize top-level structure of expository text using signal words and transitional statements and common organizational patterns.

The study began after the Pretest with one hour a day of training for 5 days in identifying the main idea and important idea sentences. Graphic organizers were used so students could incorporate the top-level ideas they had identified. The graphic organizers consisted of boxes and short phrases. The students had to write a summary based on the graphic organizer. The procedure was taught on Day 1. They continued to practice and receive feedback on the procedure for the remainder of the training sessions.

The testing included the reading of two passages. The students had to differentiate between the levels of importance in the passages by underlining less important details in blue, important in red, and main ideas in black.

Next they had to write summaries of the passages. Finally, they took a multiple choice comprehension test.

The students' scores between the Pretest and Posttest increased an average of aboaut 15 percentage points. As a result of the graphic organizer use, these students demonstrated an ability to synthesize information into meaningful chunks. In addition, they demonstrated the ability to organize concepts in order to write two to three sentences to summarize the information in each passage. Weisberg and Balajthy were impressed with these results because they were significant steps for disabled readers.

Another result of this study indicated students were able to better identify levels of importance in their underlining tasks. Another benefit was the graphic organizer encouraged students to use their own words when writing summaries.

The entire study resulted in a positive reaction between the teacher and the students. The students were able to see the beneficial results in improved reading with the use of the graphic organizer. This study was also an ideal way to integrate reading with writing.

Bean, Singer, Sortes, and Frazee (1986) conducted a study of graphic organizer use over outlining. Their results indicated graphic organizers helped students perform significantly better than students using traditional outlining. Students also showed a significantly more positive attitude toward graphic organizer techniques.

In conclusion, graphic organizers have been effective in content area teaching. Utilizing graphic organizers have provided many beneficial results. Studies have shown that they improve comprehension and recall. Graphic organizers allow the student to visualize the expository text structure. Becoming familiar with this structure enables the student to better understand the structure through the use of headings, key words, main ideas, and supporting details. When this structure is understood, the student can better read as well as write expository material. In addition, graphic organizer use has given more meaning to content material. Teacher-constructed graphic organizers have provided the student with the necessary model as to how to construct an organizer. Additional studies need to be conducted to encourage more student-constructed graphic organizers. Finally, the studies cited have provided encouraging results. Further consideration needs to be made into including graphic organizer instruction in the elementary schools' curriculum.

References

REFERENCES

Alvermann, D. E. (1982). Restructuring text facilitates written recall of main ideas. Journal of Reading, 26, 754-758.

Alvermann, Donna E. and Boothby, Paula R. (1982). A Strategy for Making Content Reading Successful: Grades 4-6. ERIC ED221853.

Alvermann, Donna E. and Boothby, Paula R. (1984). Knowledge of Text Structure and Its Influence on a Transfer Task. ERIC ED243081.

Applebee, A. N., Langer, J. A., and Mullis, I.V.S. (1989). Crossroads in American education. Princeton, NJ: Educational Testing Service.

Armbruster, Bonnie B., Anderson, Thomas H., and Meyer, Jennifer L. (1991). Improving content area reading using instructional graphics. Reading Research Quarterly, 26, 393-416.

Barbour, Susann K. (1989). Think-wink-decide for comprehension. The Reading Teacher, 42, 741-743.

Bean, T. W., Singer, H., Sortes, J., and Frazee, C. (1986). The effect of Megacognitive Instruction in Outlining and Graphic Organizer Construction on Students' Comprehension in a Tenth-Grade World History Class. Journal of Reading Behavior 18, 153-169.

Boothby, Paula R. and Alvermann, Donna E. (1984). A classroom training study: the effects of graphic organizer instruction on fourth graders' comprehension. Reading World, 23, 325-339.

Brown, June, and others, (1988). Promoting Active Thinking Comprehension through the Use of Graphic Organizers. ERIC ED300787.

Calfee, R. C., and Curley, R. (1984). Structure of prose in the content areas. In J. Flood (Ed.), Understanding reading comprehension (pp. 161-180). Newark, DE: International Reading Association.

Clarke, John H. (1991). Using visual organizers to focus on thinking. Journal of Reading, 34, 526-534.

Darch, Craig B., Carnine, Douglas W., and Kameenui, Edward (1986). The Role of Graphic Organizers and Social Structure in Content Area Instruction. Journal of

Reading Behavior, 18, 275-295.

Englert, C., and Hiebert, E. (1984). Children's developing awareness of text structures in expository materials. Journal of Educational Psychology, 76, 65-74.

Fay, Elaine, and Stansfield, Charles A. (1990). New Jersey Yesterday and Today. Morristown, NJ: Silver Burdett and Ginn.

Flood, J., Lapp, D., and Farnan, N. (1986). A reading-writing procedure that teaches expository paragraph structure. The Reading Teacher, 39, 556-562.

Hanf, M. B. (1971). Mapping: A technique for translating reading into thinking. Journal fo Reading, 14, 225-230, 270.

Mayer, R. E. (1984). Aids to text comprehension. Educational Psychologist, 19, 30-42.

McGee, L, M., and Richgels, D. J. (1985). Teaching expository text structure to elementary students. The Reading Teacher, 38, 739-748.

Noyce, Ruth M., and Christie, James F. (1989). Integrating reading and writing instruction in grades K-8. Boston: Allyn and Bacon.

Pearson, P. D., and Johnson, D. D. (1978). Teaching reading comprehension. New York: Holt, Rinehart and Winston.

Piccolo, M. A. (1987). Expository text structure: Teaching and learning strategies. The Reading Teacher, 40, 838-847.

Readence, J. E., Bean, T. W., and Baldwin, R. S. (1981). Content Area Reading: An Integrated Approach. Dubuque, IA: Kendall/Hunt.

Reutzel, D. Ray (1986). Clozing in on comprehension: the cloze story map. The Reading Teacher 39, 524-528.

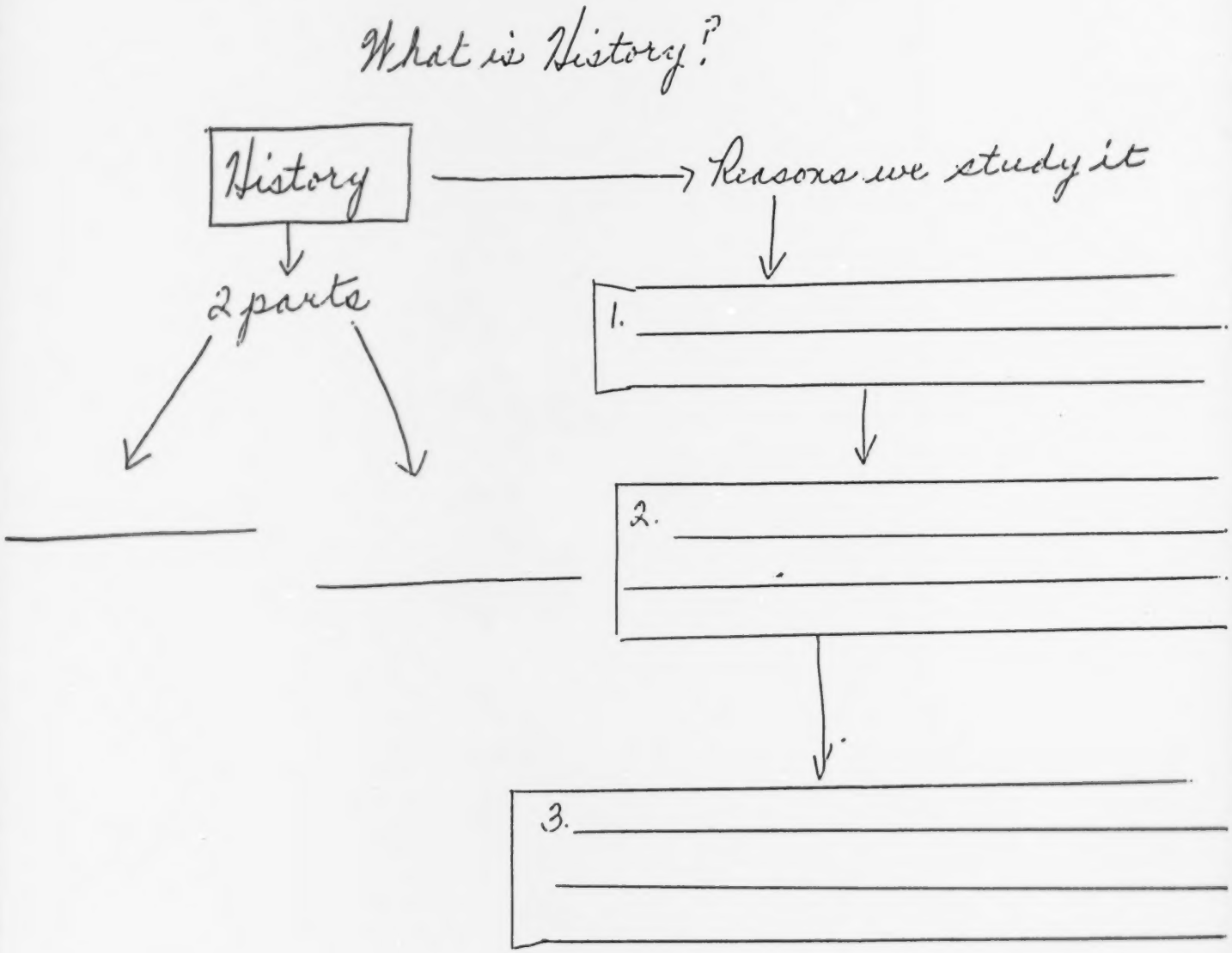
Simmons, Deborah C., Griffin, Cynthia C., and Kameenui, Edward J. (1988). Effects of Teacher-Constructed Pre- and Post-Graphic Organizer Instruction on Sixth Grade Science Students' Comprehension and Recall. Journal of Educational Research, 82, 15-21.

Slater , W. (1985). Teaching expository text structure with structural organizers. Journal of Reading 28: 712-719.

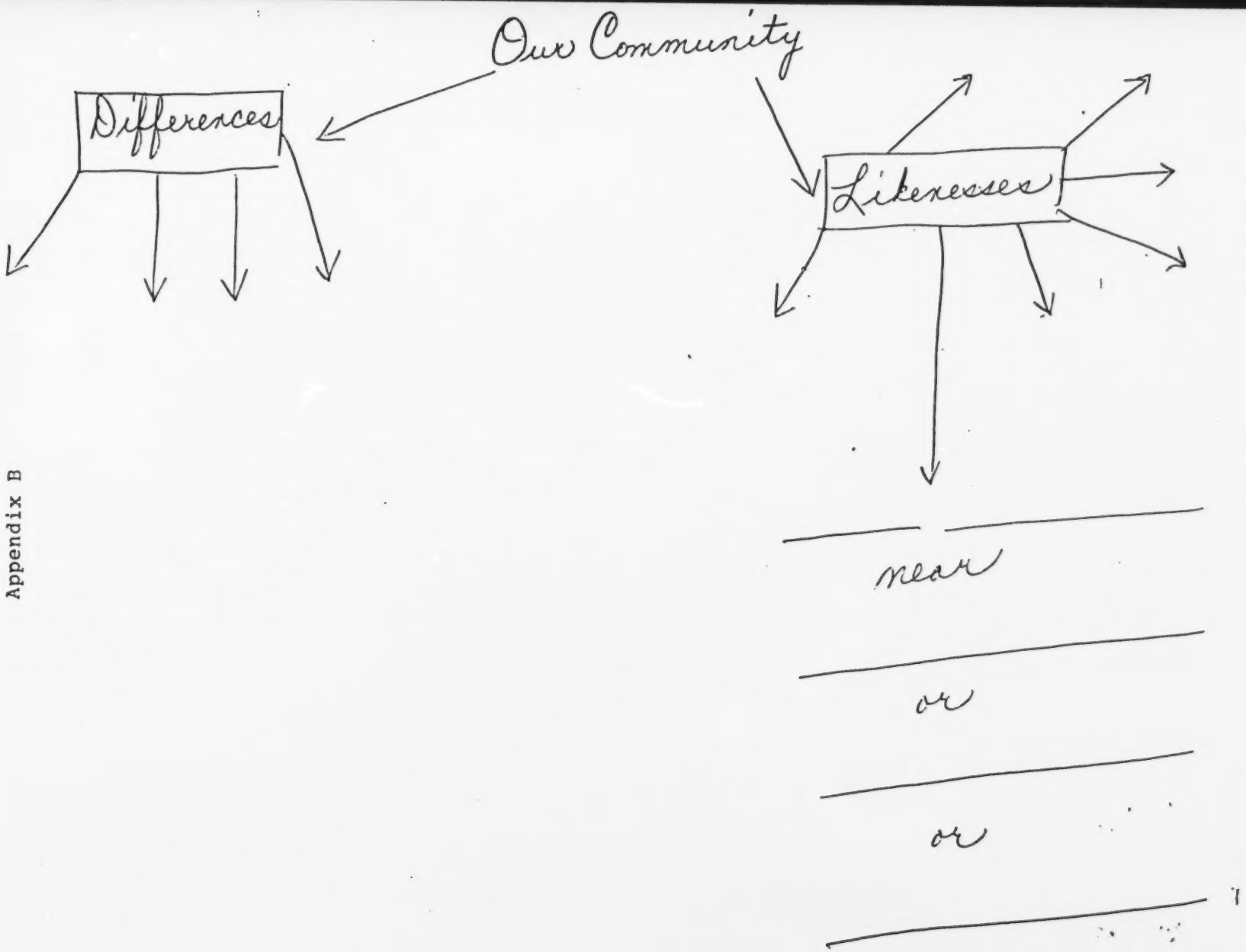
Weisberg, Renee and Balajthy, Ernest (1987). Effects of

Training in Constructing Graphic Organizers on Disabled Readers' Summarization and Recognition of Expository Text Structure. ERIC ED309386.

Appendices


What is History?
History
Reasons we study it
2 parts
1.
2.
3.

Appendix B



39

Your Name

Looking at Your Community

Pgs. 19-22 Graphic Organizer #3

Date

33

Appendix C

Local History is

_____

_____

includes

1. _____

and

2. _____

_____ and

3. _____

_____

and

4. _____

Graphic Organizer #4

34

5 Clues to finding out more about our local history

Clue 1: B

can answer the questions

1.

2.

3.

4.

Clue 2: M

which are

can be a

sculpture- or tower-

Clue 3: H

M

which are

Signs that show

1. where

or

2. where

or

3. where

or

4. where

Appendix D

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5 Clues to finding out more about our local history (continued)

Clue 4: Main Street which is

_____

_____

_____.

↓

In my community it would be _____

Clue 5: Learn from _____ of

1. _____

and

2. _____

and

3. _____

Finding Out About
Our Past - Pages 23-25

Name Date

Learn about local history —

Step 1: Look around you

Step 2: Study historical sources —

which can be

1. M
2. M
3. O
4. P
5. Historical Document —

l a b

Community Records - deeds births marriages

which is a book with records kept by a store.

6. Old
7. Old

8. Artifacts which are

9. Oral history which is

Name _____ Date _____

New Jersey is Small

larger than 1. _____
2. _____
3. _____
4 _____

Reasons to be proud of New Jersey

South - 1. _____ _____

2. _____ from Cape May to Sandy Hook

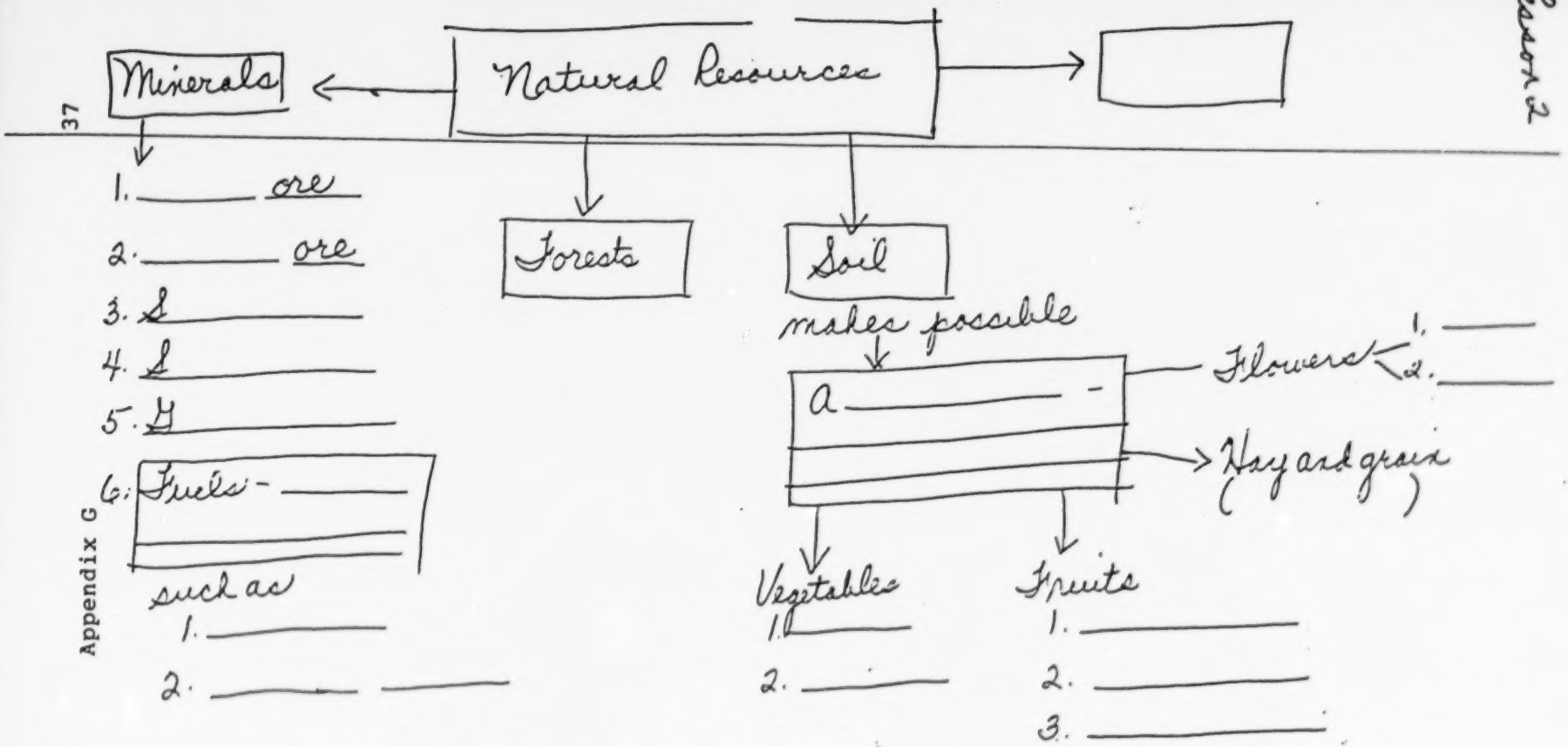
Northwest: 1. _____ _____ which are part of the larger range of Appalachian Mountains

2. _____ _____ - highest point in state

Northcentral: 1. _____ _____ (largest lake)

2. _____ _____

_____ _____ _____ (natural wonder)



Appendix G

Statistics: N.J.'s nickname _____ _____ _____

N.J.'s longest river _____ _____

(over)

What is the climate of our state like? (P. 62-65)

Name

Date

New Jersey's Precipitation

	Average Yearly Precipitation	Average Yearly Snowfall
Newton		
Newark		
Trenton		
Atlantic City		

Conclusions: 1. Most places in N. J. get _____ precipitation in summer than in winter.

2. _____

Temperature

	Average Jan. Temp.	Average July Temp.
Newton		
Newark		
Trenton		
Atlantic City		

People visit the shore or the mountains in the summer because

_____

New Jersey's Climate effects

Growing Season length which is

Outdoor Recreation

WINTER
1.
2.
3.
4.

SUMMER
1.
2.
3.
4.

About a 200 day growing season in South Jersey because

Northwest Jersey has a growing season of about 140 days

because

APPENDIX

Control Sample Test Scores

Student Number	Pretest Total	Posttest Total	Difference between Totals
1	22	29	7
2	20	25	5
3	19	24	5
4	12	17	5
5	15	27	12
6	11	31	20
7	24	33	9
8	14	38	24
9	11	14	3
10	24	40	16
11	21	31	10
12	24	32	8
13	18	27	9
14	19	38	19
15	14	18	4
16	18	27	9
17	30	43	13
18	17	30	13
19	11	15	4
20	13	18	5
21	Student could not take test.		
22	Student is a non reader.		
23	Student does not read or understand English.		
24	Student could not take the test.		

APPENDIX J

Experimental Sample Test Scores

Student Number	Pretest Total	Posttest Total	Difference Between Totals
1	13	40.5	27.5
2	4	33.5	29.5
3	12	33	21.0
4	13	33.5	20.5
5	12	37.5	25.5
6	15	14	-1.0
7	11	38.5	27.5
8	17	42.5	25.5
9	13	38.5	25.5
10	14	41.0	27.0
11	23	45.0	22.0
12	16	51.0	35.0
13	9	34.0	25.0
14	14	38.0	24.0
15	11	18.5	7.5
16	9	28.5	19.5
17	6	22.5	16.5
18	17	41.0	24.0
19	10	41.5	31.5
20	11	40.5	29.5
21	12	37.0	25.0
22	14	28.0	14.0
23	13	44.5	31.5
24	16	46.0	30.0
25	14	34.5	20.5
26	10	23.0	13.0